**PLEASE LEAVE THIS MANUAL WITH THE OSO UNIT AFTER INSTALLATION**

# SOLARCYL

IM/SC2

# INSTALLATION MANUAL

*This cylinder is manufactured and approved in accordance with EN 12897:2006. This manual gives detailed advice for installation and should be read carefully prior to fitting any unvented unit.*
*This OSO cylinder must be installed by a competent person and be installed in compliance with the OSO Installation and Maintenance Instructions, all current legislation, codes of practice and regulations governing the installation of unvented hot water cylinders in force at the date of installation.*

## Components supplied with the unit for site fitting

(See also page 2 for component list)

* Multibloc valve, includes pressure reducing valve, line strainer, balanced cold water take off, ***(for shower or bidet only)*** check and expansion valve.
* Tundish
* 1/2''F x 15 x 15 tee piece
* Flexible hose
* 3/4'' x 22mm Elbow / Drain Cock
* Blanking plug
* Motorised valve (indirect only)
* Expansion vessel.

## Components factory fitted

* Immersion heater(s)
* Thermostats / thermal cut-out
* Temperature and pressure relief valve.

**Health and Safety**
Manual Handling Operations Regulations 1992 defines manual handling as: "any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force". The Regulations set no specific requirements such as weight limits. However common sense still has to be used based on an ergonomic approach for each individual.

**DIMENSIONS AND WEIGHTS TABLE 1**

| PRODUCT REF. | **197** | **250** | **300** | **380** |
|---|---|---|---|---|
| HEIGHT | 1150 | 1400 | 1600 | 2090 |
| DIAMETER | 580 | 580 | 580 | 580 |
| WEIGHT EMPTY | 50 | 54 | 57 | 83 |
| MAX WEIGHT FULL | 241 | 297 | 339 | 454 |
| COIL SURFACE AREA - M² | | | | |
| UPPER COIL | 0,4 | 0,4 | 0,4 | 0,8 |
| LOWER COIL | 0,8 | 0,8 | 0,8 | 0,8 |

## Installation details

The OSO unvented unit is designed for use with supply pressure up to 16 bar. For pressures over 16 bar an additional pressure reducing valve must be fitted in the supply pipe to the unit.

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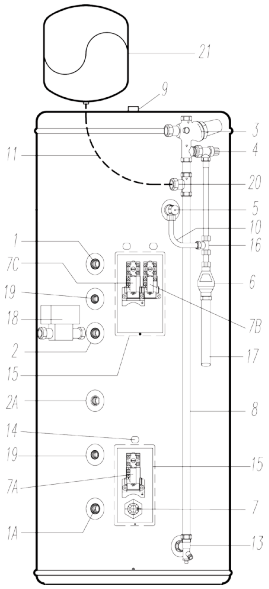
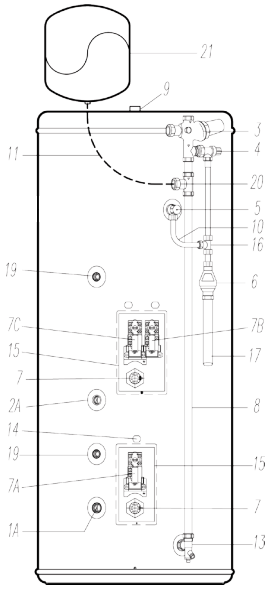
# General Layout Fig: 1

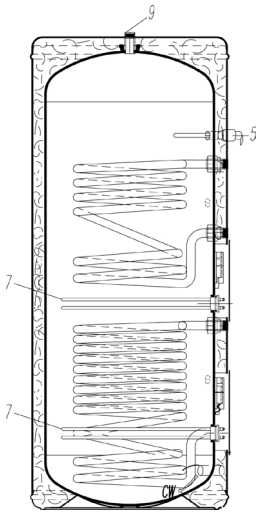
SOLARCYL TWIN COIL
Twin Coil Single Immersion Heater




SOLARCYL SINGLE COIL
Single Coil Twin Immersion Heater




CUTAWAY




| KEY | | Part No. |
|---|---|---|
| 1 | Return 3/4" BSP Boiler | |
| 1A | Return 3/4" BSO Solar | |
| 2 | Flow 3/4" BSP Boiler | |
| 2A | Flow 3/4" BSP Solar | |
| 3 | Pressure Reducing Valve Multibloc | 355013 |
| | Includes Item 4 | (3.0 bar cartridge REDC 355013) |
| 4 | Expansion valve | 510505 |
| 5 | Temperature and Pressure | 550853 |
| | Relief Valve | |
| 6 | Tundish | 219002 |
| 7 | Immersion Heater | 71259 |
| 7A | Immersion Heater Thermostat | 80020 |
| 7B | Thermostat Boiler | 80030 |
| 7C | Thermostat Solar | 80020 |
| 8 | Cold Feed Tube | |
| | (Not supplied see Table 2) | |

| KEY | | Part No. |
|---|---|---|
| 9 | Hot Water Outlet 3/4" BSP | |
| 10 | Flexible Hose | 202108 |
| 11 | Flexible Hose for Expansion Vessel | 91911 |
| 13 | Elbow / Drain Cock | 250445 |
| 14 | Cable Entry | |
| 15 | Electrical Box | |
| 16 | Tee Piece | 250006 |
| 17 | Discharge Pipe (Not supplied) | |
| 18 | Motorized Valve (Not Factory Fitted) | 92000 |
| 19 | Sensor pockets ø 8 mm | |
| 20 | T-piece for expansion vessel conn. | |
| 21 | Expansion vessel | AX12, 19 or 24 |

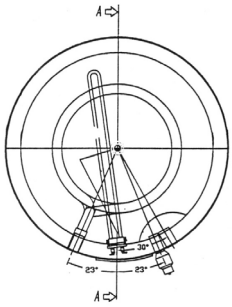



TABLE 2

| Size | Lenght of tube (ø22) mm | Exp. vessel pre charge |
|---|---|---|
| 197 | 860 | 2,5 bar |
| 250 | 1060 | 2,5 bar |
| 300 | 1300 | 2,5 bar |
| 380 | 1775 | 2,5 bar |

## COLD WATER SUPPLY

1. To obtain the best performance from your OSO unvented system it is advisable to feed the unit with an uninterrupted supply.
2. Before connecting to the multibloc, flush the cold supply pipework of all flux and debris.
3. Locate the water heater in a suitable position to facilitate the installation of the cold water supply, discharge fittings and pipework. Also take into account access to the immersion heaters and the commissioning valve.
4. Fit the combined male elbow drain cock to cold supply point (13), so that the compression fitting is vertical.
5. Fit the blanking plug (12) to the secondary return fitting. If secondary return is to be used - see point 16.
6. Fit the female outlet of the tee piece to the temperature and pressure relief valve (5) with the horizontal connection facing right at approx. 45°.
7. Fit the tundish (6) to the tee piece using a short length of 15mm copper tube.
8. Fit the length of copper tube 22mm specified in Table 2 to the cold feed elbow (see 4 above) to include a T piece (20) for expansion vessel flexible hose.
9. Fit the pressure reducing valve (3) to the top of the copper tube (see 8 above), so that the black knob is facing right.
10. Connect the flexible hose to the 1/2" outlet of the expansion valve (4) and the horizontal outlet of the tee piece (see 6 above). Discard compression nut & ring.
11. If a balanced mains pressure cold water supply is required to a **shower or bidet (over rim type only)**, remove the blanking cap from the pressure reducing valve (3) and connect to the shower or bidet cold supply. ***Using the balanced cold connection to feed bath taps can reduce the flow available to the unvented cylinder. (Major shower manufacturers advise fitting a mini expansion vessel in the pipework to accommodate thermal expansion and prevent tightening of shower controls)***
12. Connect the cold supply to the Multibloc (3).
13. Fit the expansion vessel to the wall close to the water heater using the enclosed mounting bracket. Connect the expansion vessel hose to the T piece in the cold feed pipe to the cylinder. The expansion vessel is supplied with the OSO unit, fit as shown on page 2.

**Hot water supply**

14. Connect the hot water supply pipe to the outlet (9). Ensure connection is water tight.

**Secondary return (optional)**

15. Connect secondary return if required to fitting according to diagram on page 16.

**Discharge pipe**

16. Connect the discharge pipe from the tundish (6). This must have a continuous fall and be fitted in accordance with The Building Regulations (see page 16). The tundish should be installed away from electrical devices.

**Boiler Primaries - Primary flow & return and motorised valve**

17. The boiler primary flow and return connections should be made to the upper coil connections unit. The motorized valve can be connected to either the primary flow or return pipe. The primary flow and return fittings are 3/4" BSP female. The valve has 22mm x copper connections. The direction of primary flow in the boiler coil is bottom to top. The maximum operating temperature of the primary flow would typically be 82°C.
18. For electrical connection of the motorised valve and immersion heater, please read Electrical Installation Instructions. (Pages 7 - 11)

**Solar Primaries**

19. The Solar flow and return connections should be made to the lower coil connections. Temperature control from the Solar circuit is achieved using a differential solar controller. This controller must be wired in series through the thermal cut-out on the OSO thermostat (see figure 4 pages 9 & 11). If Solar Collectors are to be installed at a later date then connect the boiler primaries to the lower coil. The driection of solar primary flow in the solar coil is top to bottom.
20. The solar circuit must be installed with a solar hydraulic station which must incorporate a pump and non-return valves in both flow and return within the solar circuit. This system will prevent thermal siphoning when the pump is not active.

21. Temperature sensors for the cylinder provided with the differential controller should be inserted into the pockets provided (see pt 5 above).
22. There is no maximum primary temperature from the solar system and primary temperatures in excess of 100°C are not unusual. All components on the solar circuit must be suitable for these higher temperatures. Should the solar circuit be installed incorrectly, then all approvals and guarantees of the cylinder are invalid.

## COMMISSIONING

**Filling up**

1. Open a hot tap.
2. Open the cold water supply valve
3. when water flows from hot tap, close the tap
4. Allow the system to stabilize for 5 minutes
5. Open each hot water tap in turn to expel air from the system pipe work.
6. Check for leaks.
7. Manually operate Temperature and Pressure Relief Valve (5) to ensure free water flow through discharge pipe. (Turn knob to left.)

**Draining/flushing**

1. Turn off mains supply.
2. Connect hose pipe to drain cock at base of cylinder.
3. Open hot tap. Open drain valve and open temperature & pressure relief valve.
4. Allow to drain. Follow commissioning instructions (above) to refill.

## SAFETY AND MAINTENANCE

**Safety Cut-out**

1. The safety cut-out operates if:

a. Wiring is incorrect.
b. The immersion heater thermostat or cylinder thermostat fails.
c. Thermostat is set too high.

2. Remember before resetting the safety cut-out or altering the thermostat setting, isolate electrical supply to the unit prior to removal of the electrical box lid.
3. Reduce thermostat setting and press the reset button. After adjustments are completed, ensure the lid to the electrical box is replaced correctly and the retaining screw is fitted.
4. If still out of operation, contact installer.

## RECOMMISSIONING INSTRUCTIONS

**Cold or tepid water discharge from tundish -** The tundish should be installed away from electrical devices.

1. Close cold water supply valve
2. Open a hot tap.
3. Repressurise the expansion vessel air charge to its set level.
4. Close hot tap
5. Open the cold water supply valve

**Hot water discharge from tundish**

This indicates a malfunction of a thermal cut-out, operating thermostat or the combined temperature and pressure relief valve. Turn off the electrical supply to the immersion heater and also isolate an indirect unit from the boiler. Contact the installer or competent engineer.

TABLE 3

| Size litres | Max. design pressure | Operating pressure CW feed & coils | Pressure drop primary heater lower & upper | Temp. / pressure relief valve | Safety valve Pressure / conn. | Exp. vessel capacity |
|---|---|---|---|---|---|---|
| 197 | 8 bar | cw in 2 bar, coils 2.5 / 6 | lower 0,2 bar, upper 0,1 bar | 90-95°C / 10 bar | 8 bar / 15mm - 1/2" | 12 l. |
| 250 | 8 bar | cw in 2 bar, coils 2.5 / 6 | lower 0,2 bar, upper 0,1 bar | 90-95°C / 10 bar | 8 bar / 15mm - 1/2" | 19 l. |
| 300 | 8 bar | cw in 2 bar, coils 2.5 / 6 | lower 0,2 bar, upper 0,1 bar | 90-95°C / 10 bar | 8 bar / 15mm - 1/2" | 19 l. |
| 380 | 8 bar | cw in 2 bar, coils 2.5 / 6 | lower 0,2 bar, upper 0,1 bar | 90-95°C / 10 bar | 8 bar / 15mm - 1/2" | 24 l. |

# INSTALLATION AND SERVICING INSTRUCTIONS

**Positioning the unit**
The water heater should be fitted level on a hard surface with sufficient load strenght to take the full weight of the cylinder (see table 1 page 1). Adjustable feet are fitted to ensure the unit can be adjusted to a level position. There is no limitations regarding the fitting distance from walls etc., but it is strongly recommended to ensure easy access to all pipe fittings etc. There should be at least 80 cm of free space in front of the water heater to ensure easy access for servicing and maintenance.

**Protection from frost**
If the water heater is in danger of being exposed to frost while not operating under electric power, the unit must be drained to avoid damage. Make sure the electric power is turned off before draining, otherwise the heating elements can be damaged and the warranty is void. Draining instructions, see "Commissioning" on page 4.

**Cold water inlet control (Multibloc) See Page 2 Items 3 - 4**
This combination consists of a pressure reducing valve with integral strainer, check valve and expansion valve with stainless steel seat. The pressure settings are set and locked in the factory and are shown on the top of each valve. For optimum performance the following installation instructions should be complied with.

**Installation**
1. Cold water supply to be 22mm nominal size.
2. Flush supply pipework before connection to remove all flux and debris prior to fitting the inlet controls. Failure to do this may result in irreparable damage to the controls and will invalidate the warranty.
3. The "MULTIBLOC" can be fitted in any orientation to suit the installation as long as it is fitted in the correct flow direction. Check the flow arrows on the side of the body.
4. The expansion valve should be either horizontal or pointing downwards. If fitted upwards, debris may be deposited on the seat and cause fouling of the seat when the valve operates. Check direction of flow arrows.
5. The black plastic plugs in the body are pressure gauge connections to enable pressure monitoring to be carried out, should the system develop a fault. It is recommended that these be accessible (the pressure reducing valve has two - only one need be accessible).
6. Expansion relief drain pipework must be connected to a safe visible discharge point via a tundish and the pipework must have a continuous fall.
7. The pressure reducing valve has two outlets, the second one is for a balanced cold water supply, to a shower or a bidet ***(over rim type only, ascending spray type requires type AA, AB or AD air gap). (Major shower manufacturers advise fitting a mini expansion vessel in the balanced cold supply to accommodate thermal expansion and prevent tightening of shower controls).***
   Using the balanced cold connection to feed bath taps can reduce the flow available to the unvented cylinder. If not required the balanced cold supply is blanked off.
   The Benchmark Log Book enclosed with the cylinder should be completed after commissioning of the system and handed to the customer for future use.

TABLE 4

| Size litres | Weight empty | Weight full | Heat-up (mins) lower / upper coil | Rating (kW) lower / upper coil | Heat loss kWh/24h | Primary flow rate | Hot water capacity (l.) lower / upper coil |
|---|---|---|---|---|---|---|---|
| 197 | 50 | 241 | 37 / 30 | 16,1 / 10,8 | 1,9 | 15 l/min. - 80°C | 195 / 108 |
| 250 | 54 | 297 | 41 / 41 | 17,6 / 11,0 | 2,1 | 15 l/min. - 80°C | 233 / 147 |
| 300 | 57 | 339 | 49 / 51 | 17,4 / 10,8 | 2,3 | 15 l/min. - 80°C | 277 / 193 |
| 380 | 83 | 454 | 62 / 46 | 17,8 / 16,4 | 3,2 | 15 l/min. - 80°C | 350 / 238 |

Note: Temperature rise is from 15 to 60°C. Coil heating performance based on a primary flow rate of 15 l/min. at 80°C.

# MAINTENANCE

It is recommended that annually a competent person
(a) Inspects and cleans the line strainer.
(b) Checks the operation of the expansion relief valve and temperature & pressure relief valve.
(c) Recommissions the cylinder in accordance with the instructions on page 4.

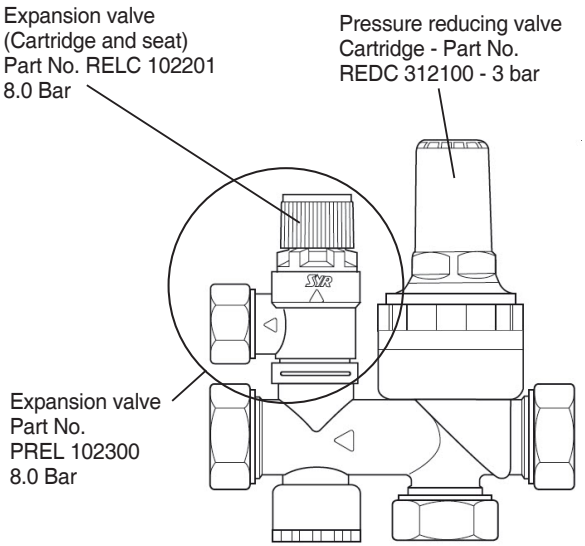
**Corrosion resistance**
Duplex stainless steel is naturally corrosion resistance to mains water supply. No specific maintenance is required to maintain this resistance. Please see guarantee terms for permissable water content. Please note: OSO cylinders are not guaranteed for use with a private water supply.

The immersion heater can be removed to provide visual inspection access to the cylinder.

**Pressure reducing valve**
1. Isolate the cold water supply and open a ground floor cold tap.
2. Unscrew the pressure reducing cartridge
3. Clean the filter mesh and the cartridge under running water.
4. Replace cartridge ensuring that strainer is correctly located and reassemble the unit. Pressure Reducing Valve cartridge and strainer Part No. REDC312100 - 3 Bar.

**Expansion relief cartridge**
1. Isolate the cold water supply and open a ground floor cold tap.
2. Unscrew blue expansion relief headwork from valve body.
3. Clean valve seat face and seating - do not scratch or damage either seat face or seating.
4. Refit in reverse order. Do not overtighten Expansion valve cartridge and seat Part No. RELC 102201 8.0 Bar.
   Complete Expansion Valve Part No. PREL 102300 8.0 Bar.

**SPARE PARTS**




**Tundish**
Install theTundish in a vertical position within a maximum of 600mm from the temperature and Pressure Relief Valve drain connection. Ensure the expansion relief pipework discharges through the tundish. Tundish pipework must be 22mm with a minimum vertical length of 300mm below tundish. Maximum permitted length of 22mm pipework is 9m. Each bend or elbow is equivalent to 0.8m of pipework.
All pipework must have continuous fall and discharge in a safe, visible position. If any doubt, refer to *Building Regulation G3.*

# ELECTRICAL INSTALLATION

**Immersion heaters**
SolarCyl Single coil is provided with twin immersion heaters. The upper immersion heater is designed as an auxiliary heater to supplement the solar energy and will ensure the top section of the water heater is fully heated.
All SolarCyl units are supplied with an immersion heater at low level. This immersion heater is to allow full heating of the entire cylinder should it be required for cleansing purposes. The lower immersion heater should not be in regular use as this will severely compromise the solar efficiency of the cylinder.

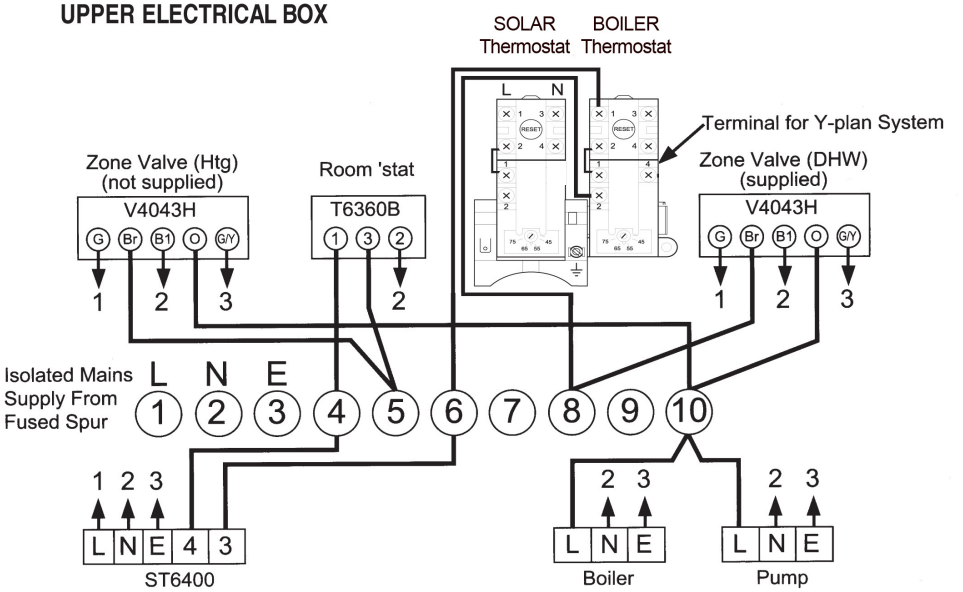
Wiring instructions for the immersion heater is located on the reverse side of the lower lid. Follow the wiring instructions connecting the live, neutral and earth as indicated. The electrical connection to the immersion heater must conform to current IEE wiring regulations. The unit must be permanently connected to the electrical supply through a double-pole linked switch with a minimum break capacity of 13 amps. All internal wiring is factory mounted. Each immersion heater has a working thermostat adjustable between 40°C - 70°C. A safety cut-out is also incorporated within the thermostat and will operate at 85°C ± 3°C. Should this happen, press the reset button.
**Important: Before resetting the safety cut-out or altering the thermostat setting, isolate electrical supply to the unit prior to removal of the lid. Ensure the lid to the electrical box is replaced correctly and the retaining screw is fitted.**

**Indirect Units upper coil**
**Motorised valve**
To comply with regulations governing the installation of indirect unvented cylinders, a motorised valve must be fitted in the primary flow. Your OSO unit has been supplied with a two port motorised valve, which will act as a positive energy cut-out should the safety cut-out operate. The motorised valve will also control the temperature of the domestic stored water via the cylinder thermostat, which is located in the upper electrical box. The unit should be installed on an “S” or “Y” plan system. Cylinder temperature control can also be achieved via the solar thermostat when the boiler is not operational.
**Please follow the instructions carefully.** All electrical connections must conform to current IEE wiring regulations. The working thermostat is adjustable between 40°C - 70°C. A safety cut-out is also incorporated within the thermostat and will operate at 85°C ± 3°C. Should the safety cut-out be brought into operation, the motorised valve will operate and close down the primary flow to the cylinder. To reset the safety cut-out and the motorised valve the reset button must be pressed in (see fig.4 page 8).

**Lower (Solar) coil**
Heat sources to unvented hot water cylinders must be controlled by a thermal cut-out as well as a thermostat. The OSO Solarcyl is supplied both with bosses for solar sensor pockets and the pockets themselves.
The top half of the thermostats fitted to the cylinder is a thermal cut-out. The solar controller (not supplied) and solar sensor point should be wired through the OSO thermal cut-out. See fig. 4 pages 8 & 10.

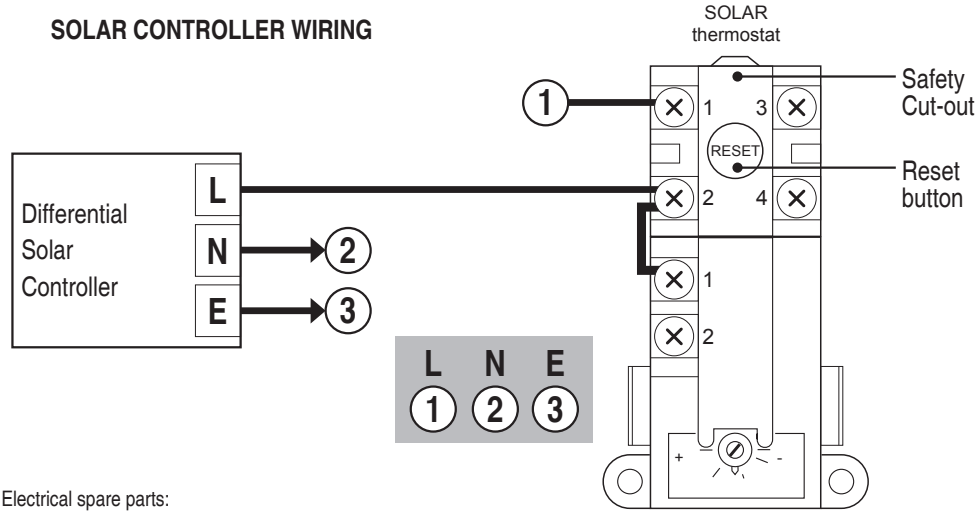
Please note that the direction of flow in the solar coil is reversed compared to the boiler coil. If the cylinder is not being used for solar use, connect the boiler to the lower coil with the primary flow in a bottom to top direction.

**OSO Hotwater (UK) Limited can not be responsible if alternative wiring plans are used.**
**Important: Before resetting the safety cut-out or altering the thermostat setting isolate electrical supply to the unit before removal of the lid.**




The wiring plan shown is based on the use of a 10-way Junction Box (Honeywell Part no. 42002116-001).
Junction Box terminal 8 is switched live and, if needed, terminal 10 is pump live.

FIGURE 4




Electrical spare parts:

| | |
|---|---|
| Immersion Heater | 71259 |
| Immersion Heater Thermostat | 80020 |
| Coil Thermostats | 80030 |

# S Plan System Schematic

FIGURE 1

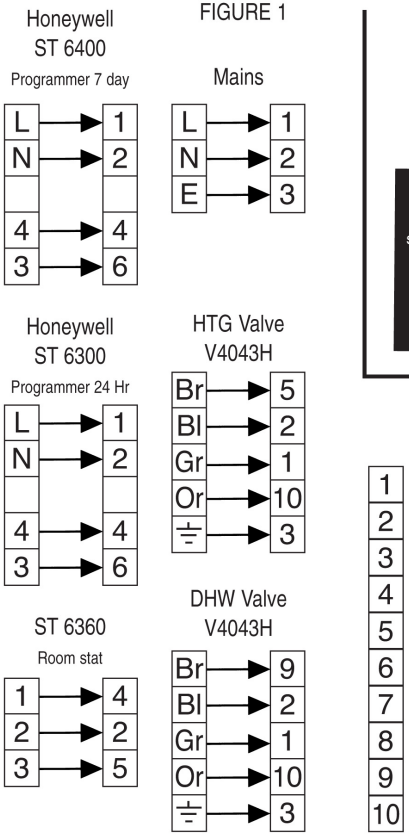



FIGURE 2

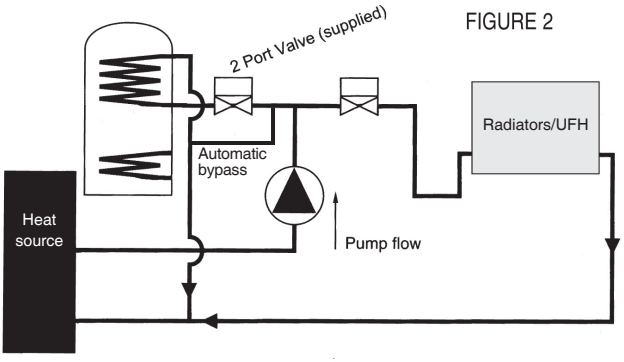
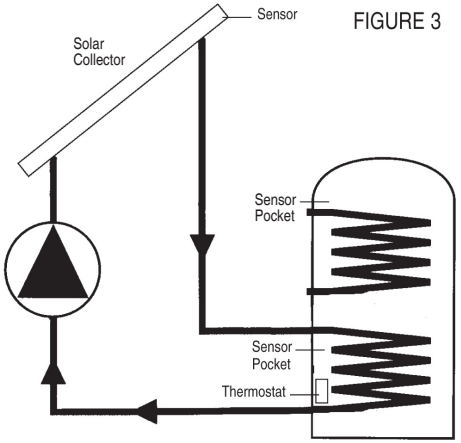
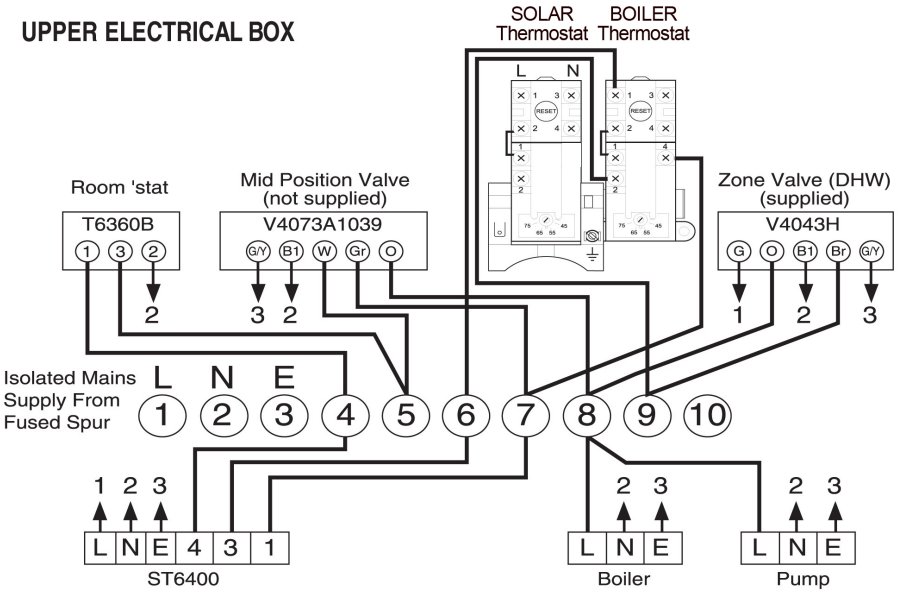



FIGURE 3



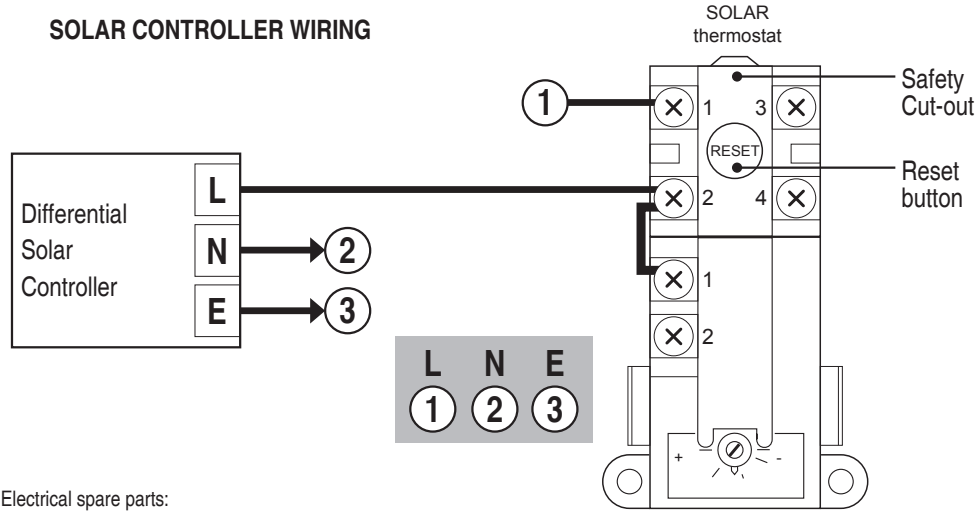
# Y Plan Wiring Layout

**A Honeywell 10 way junction box must be used in a Y plan system. No other wiring centre is acceptable.**




The wiring plan shown is based on the use of a 10-way Junction Box (Honeywell Part no. 42002116-001).
Junction Box terminal 8 is switched live and, if needed, terminal 10 is pump live.

FIGURE 4




Electrical spare parts:

| | |
|---|---|
| Immersion Heater | 71259 |
| Immersion Heater Thermostat | 80020 |
| Coil Thermostats | 80030 |

# Y Plan System Schematic

FIGURE 1

Honeywell
ST 6400
Programmer 7 day

| | |
|---|---|
| L | 1 |
| N | 2 |
| 4 | 4 |
| 1 | 7 |
| 3 | 6 |

Mains

| | |
|---|---|
| L | 1 |
| N | 2 |
| E | 3 |

Honeywell
ST 6300
Programmer 24Hr

| | |
|---|---|
| L | 1 |
| N | 2 |
| 4 | 4 |
| 1 | 7 |
| 3 | 6 |

V4073A1039

| | |
|---|---|
| W | 5 |
| G | 7 |
| O | 8 |
| Bl | 2 |
| ⏚ | 3 |

ST 6360
Room stat

| | |
|---|---|
| 1 | 4 |
| 2 | 2 |
| 3 | 5 |

DHW Valve
V4043H

| | |
|---|---|
| Br | 9 |
| Bl | 2 |
| Gr | 1 |
| Or | 8 |
| ⏚ | 3 |

| | |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

FIGURE 2

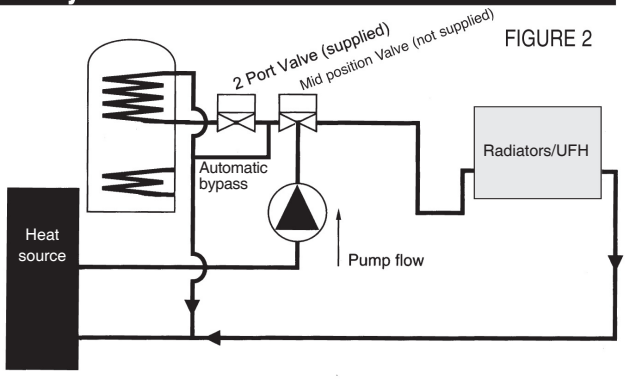
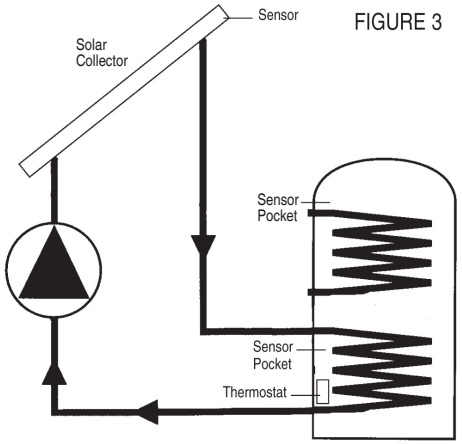



FIGURE 3

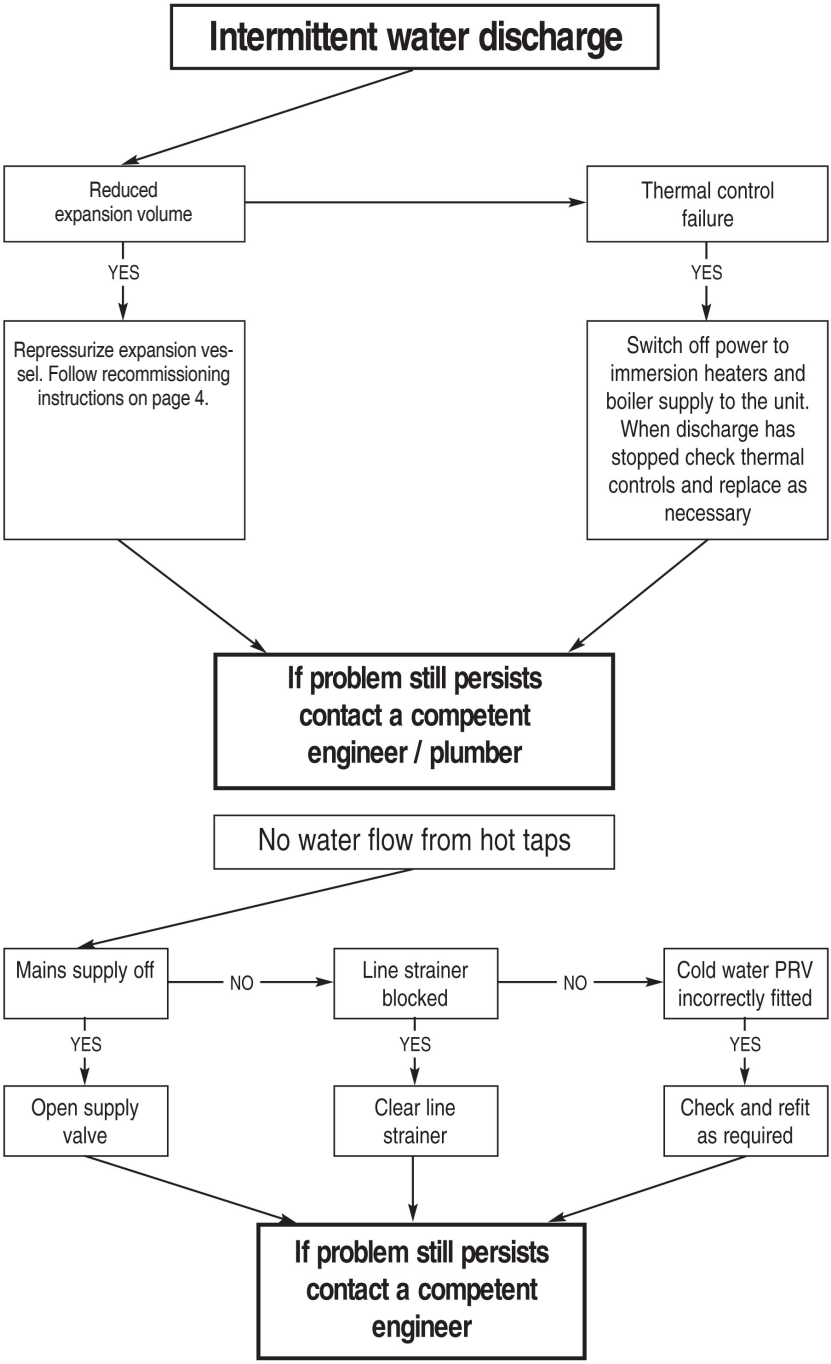


# OSO FAULT FINDING GUIDE

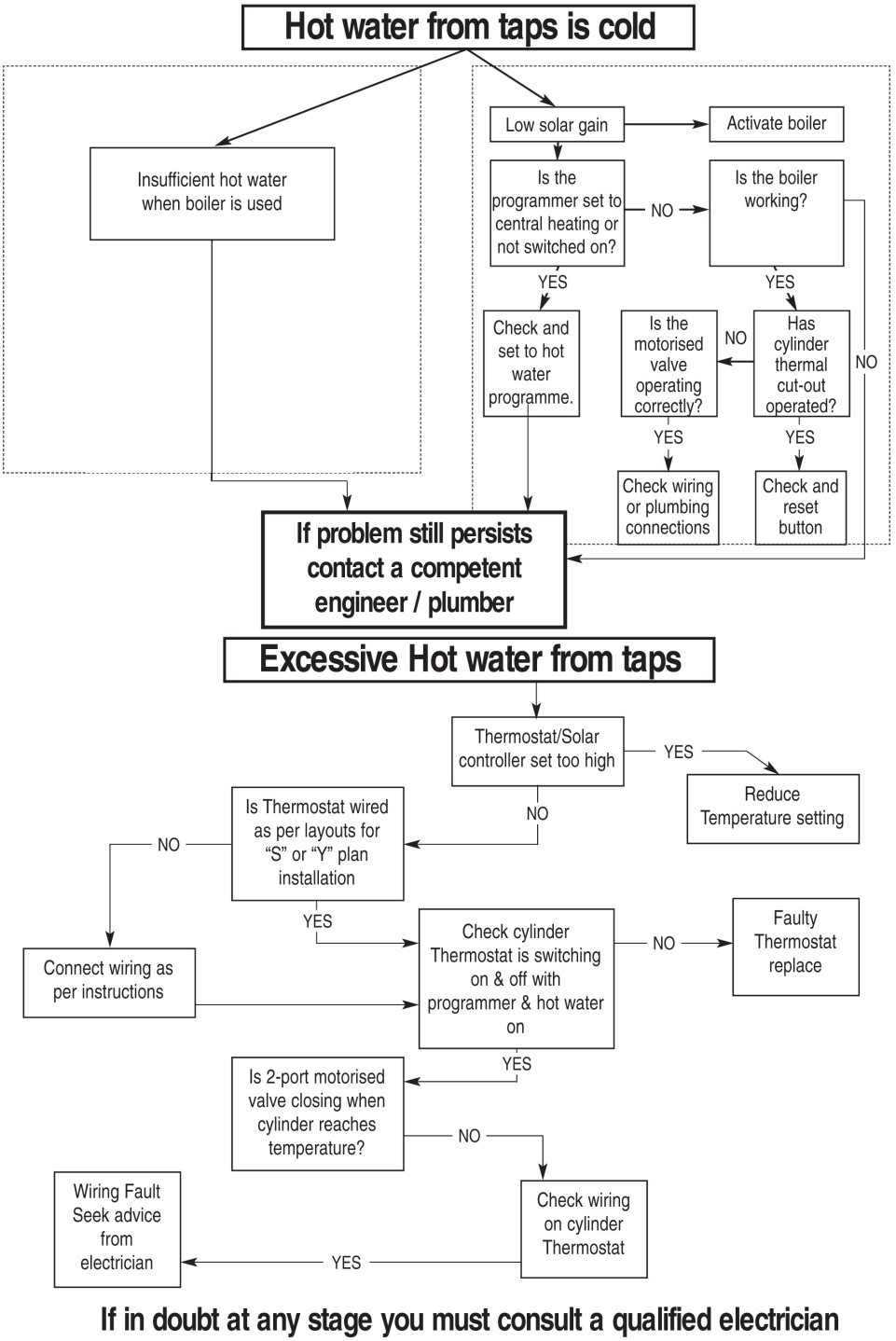
| FAULT | POSSIBLE CAUSE | REMEDY |
|---|---|---|
| No water flow from hot taps | 1. Mains supply off.<br>2. Strainer blocked.<br><br><br><br>3. Cold water inlet Pressure Reducing Valve incorrectly fitted. | 1. Check and open stopcock<br>2. Turn off water supply. Remove strainer and clean. (See Pressure Reducing Valve page 6 Installation Manual)<br>3. Check and refit as required, (see item 3 page 5 of installation manual). |
| Water from hot taps is cold. | 1. Low solar gain.<br>2. Immersion heaters not switched on.<br>3. Immersion heater thermal cut-out has operated.<br><br><br>4. Programmer set to central heating or not switched on.<br>5. Boiler not working.<br><br><br>6. Cylinder thermal cut-out has operated. (Indirect units only).<br>7. Motorised valve not operating correctly. | 1. Activate alternative power source.<br>2. Check and switch on.<br><br>3. Check and reset button. (See thermostat diagram page 9 and safety cut-out on page 4 of installation manual).<br>4. Check and set to hot water.<br><br>5. Check boiler operation. If fault suspected consult installer or boiler manufacturer.<br>6. As at No. 2.<br><br>7. Check wiring and / or plumbing connections to motorised valve. (See pages 8 or 10 of the installation manual). |
| Intermittent water discharge. | 1. Reduced internal expansion.<br><br><br>2. Thermal control failure. (Note Water will be hot). | 1. Repressurize expansion vessel. Follow recommissioning instructions on page 4.<br>2. Switch off power to immersion heater(s) and boiler supply to the unit. When discharge has stopped, check thermal controls, replace it faulty. Contact a competent person. |
| Continuous water discharge. | 1. Cold water inlet Pressure Reducing Valve not working.<br><br><br>2. Temperature and pressure relief valve faulty.<br>3. Expansion relief valve not working correctly. | 1. Check pressure from valve if greater than 2.1 bar replace. (See page 6 of installation manual).<br>2. As No. 2 of above.<br><br>3. Check and replace if faulty. (See page 6 of installation manual). |

**NOTE: Disconnect electrical supply before removing any electrical equipment covers**

## OSO FAULT FINDING GUIDE


Intermittent water discharge
Reduced expansion volume
Thermal control failure
YES
YES
Repressurize expansion vessel. Follow recommissioning instructions on page 4.
Switch off power to immersion heaters and boiler supply to the unit. When discharge has stopped check thermal controls and replace as necessary
If problem still persists contact a competent engineer / plumber
No water flow from hot taps
Mains supply off
NO
Line strainer blocked
NO
Cold water PRV incorrectly fitted
YES
YES
YES
Open supply valve
Clear line strainer
Check and refit as required
If problem still persists contact a competent engineer

## OSO FAULT FINDING GUIDE


Hot water from taps is cold
Insufficient hot water when boiler is used
Low solar gain
Activate boiler
Is the programmer set to central heating or not switched on?
NO
Is the boiler working?
YES
YES
Check and set to hot water programme.
Is the motorised valve operating correctly?
NO
Has cylinder thermal cut-out operated?
NO
YES
YES
Check wiring or plumbing connections
Check and reset button
If problem still persists contact a competent engineer / plumber
Excessive Hot water from taps
Thermostat/Solar controller set too high
YES
Reduce Temperature setting
NO
Is Thermostat wired as per layouts for "S" or "Y" plan installation
NO
YES
Connect wiring as per instructions
Check cylinder Thermostat is switching on & off with programmer & hot water on
NO
Faulty Thermostat replace
YES
Is 2-port motorised valve closing when cylinder reaches temperature?
NO
Wiring Fault Seek advice from electrician
YES
Check wiring on cylinder Thermostat

**If in doubt at any stage you must consult a qualified electrician**

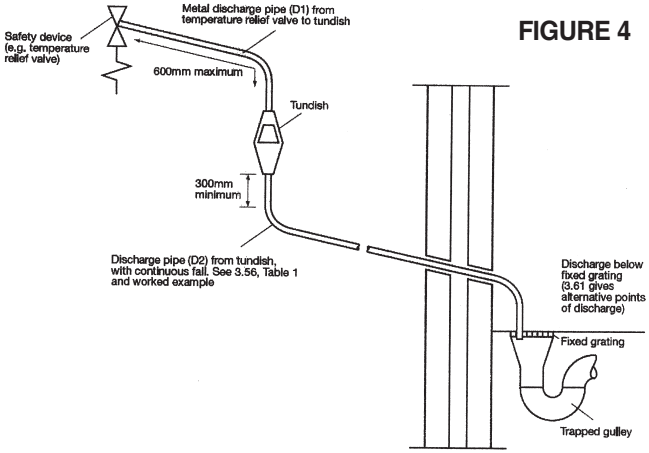
**NOTES:**

## ALTERNATIVE DISCHARGE

Downward discharges at low level, i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc, are acceptable providing that where children may play or otherwise come into contact with discharges, a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility.

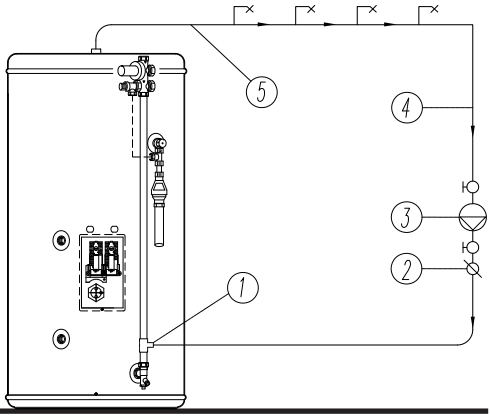
Discharge at high level, i.e. into a metal hopper and metal down pipe with the end of the discharge pipe clearly visible (tundish visible or not) or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastics guttering system that would collect such discharges (tundish visible). Where a single pipe serves a number of discharges, such as in blocks of flats, the number served should be limited to not more than 6 systems so that any installation discharging can be traced reasonably easily. The single common discharge pipe should be at least one pipe size larger than the largest individual discharge pipe to be connected. For further information contact your Building Control Office or The British Board of Agrément.

**FIGURE 4**


Metal discharge pipe (D1) from temperature relief valve to tundish
Safety device (e.g. temperature relief valve)
600mm maximum
Tundish
300mm minimum
Discharge pipe (D2) from tundish, with continuous fall. See 3.56, Table 1 and worked example
Discharge below fixed grating (3.61 gives alternative points of discharge)
Fixed grating
Trapped gulley

## SECONDARY RETURN

**FIGURE 5**




1. Secondary Return Fitting
2. Non Return Valve
3. Circulation Pump
4. Secondary Return Line
5. Balanced cold supply for showers or bidet only

**All replacement parts must be supplied by OSO HOTWATER (UK) LIMITED.**
**To obtain the address of a local stockist contact:**

**OSO HOTWATER (UK) LTD.**
**E15 Marquis Court - Team Valley Trading Estate - Gateshead - Tyne&Wear, NE11 0RU**
**Phone: (0191) 482 0800 • Fax: (0191) 491 3655 • www.oso-hotwater.com**

**E-mail: technical.uk@oso-hotwater.com • spareparts.uk@oso-hotwater.com • sales.uk@oso-hotwater.com**